Review of Lockhart Power Company's 2020 Integrated Resource Plan Docket No. 2019-227-E

South Carolina
Office of Regulatory Staff

October 20, 2020

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Pursuant to Section 58-37-40, South Carolina Code of Laws

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Prepared for the South Carolina Office of Regulatory Staff

by

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Executive Summary

The South Carolina Office of Regulatory Staff ("ORS") provides this Report to summarize the review of Lockhart Power Company's ("LPC" or "Company") 2020 Integrated Resource Plan ("IRP") filed June 15, 2020, in Docket No. 2019-227-E. ORS, with the assistance of J. Kennedy and Associates, Inc. ("JKA"), evaluated LPC's IRP to determine if the statutory requirements of S.C. Code Ann. §58-37-40 ("Section 40"), as amended by the South Carolina Energy Freedom Act ("Act 62"), and the requirements of the Public Service Commission of South Carolina's ("Commission") Order No. 98-502 were met by LPC.

Act 62 was signed into law by Governor McMaster on May 16, 2019. Act 62 amended the IRP requirements included in Section 40 by identifying information that each utility must provide in its IRP report, and by providing a set of factors for the Commission to consider as it determines whether to approve, require modifications, or reject the utility's resource plan. Act 62 established specific information requirements that address peak load and energy forecasts, demand-side management ("DSM"), reliability, new resource alternatives, renewable resources, and existing resource retirements. Act 62 also added other substantive and procedural requirements.

Act 62 requires the Commission to consider whether each utility's IRP represents the "most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed."[1] Act 62 provides seven (7) factors for the Commission to consider in the evaluation of the resource plans in the IRP. Act 62 also states that any resource plan accepted by the Commission "shall not be determinative of the reasonableness or prudence of the acquisition or construction of any resource or the making of any expenditure."[2] It further states that the utility retains the burden to prove in a future cost recovery proceeding that any investment and expenditure it makes is reasonable and prudent.[3]

LPC is an electric utility that provides electric service to about 6,160 retail customers located in rural portions of five (5) counties (Cherokee, Chester, Spartanburg, Union, and York) of the Upstate region of South Carolina. LPC has a forecasted peak load of 68 megawatts ("MW") in 2021 and an installed capacity base of about 30 MW of LPC-owned resources.[4] The remainder of its capacity requirements are supplied by Duke Energy Carolinas, LLC ("DEC") under a full requirements, long-term power purchase agreement ("PPA"). LPC indicates that the Company will buy approximately 75% of the Company's energy requirements from DEC and supply the rest of the requirements from LPC-owned

[1] S.C. Code Ann. § 58-37-40(C)(2).
[2] S.C. Code Ann. § 58-37-40(C)(4).
[3] Id.
[4] LPC 2020 IRP, Attachment 2.

renewable and fossil fueled peaking resources, of which over 99% are renewable resources.[5]

LPC addresses Act 62 requirements for the first time in this IRP. The Company states that the overall objective of the Company's IRP is to "minimize our long run total costs and produce the least cost to customers consistent with the availability of an adequate and reliable supply of electric energy while maintaining system flexibility and considering environmental impacts."[6] Despite the Company's objectives, ORS concludes that the Company did not meet all of the requirements of Act 62, particularly the requirement to include "several resource portfolios developed with the purpose of fairly evaluating the range of demand-side, supply-side, storage, and other technologies and services available to meet the utility's service obligations."[7]

The Company has represented in the LPC IRP the system as it currently exists, without consideration of the upcoming expiration of energy sales PPA contracts for certain renewable resources, the addition of new renewable resources, and alternatives to its full requirements, long-term contract with DEC, which will expire in 2028.[8] The DEC PPA requires that LPC [redacted][9] It is typical for utilities to include resource decisions that fall within the planning horizon within a utility's IRP. LPC's planning horizon for this IRP covers the fifteen (15) year period of 2020 through 2034.[10]

ORS provides the following summary of its recommendations detailed in the subsequent sections of this report. Certain recommendations are designated with an "N" to indicate the Company should act now to modify this IRP. Other recommendations are designated with an "L" indicating those recommendations could be completed later. Those recommendations are not less important, however, ORS recognizes that LPC may require additional time to address them. Those recommendations should be discussed in the next IRP update, however, if LPC requires more time to address the recommendations, the Company should complete its evaluation and report its conclusions in the next comprehensive IRP it will file in 2023.

[5] ORS AIR 1-1d.
[6] LPC 2020 IRP, p. 3.
[7] S.C. Code Ann. § 58-37-40(B)(1)(e).
[8] Direct Testimony of Bryan Stone, p. 9, l. 1.
[9] ORS AIR 3-6(b).
[10] LPC 2020 IRP Attachments 2 and 3.

Recommendations

ORS recommends the Company be required to address the following recommendations identified in the report. (N – Now, L – Later).

1) The Company should develop long-term forecasts of sales and peak demand under various reasonable scenarios, which typically include low, medium and high forecasts. **(N)** 40(B)(1)(a)

2) The Company should improve its forecasting methodology. This includes developing documentation describing the energy and peak load forecast methodology and performing a statistically based analysis that uses historical LPC sales and load data, together with weather data to develop long term projections. **(L)**

3) The Company should develop several resource portfolios (low, medium, and high) to evaluate the range of demand-side, supply-side, storage and other technologies available to meet its load requirements. **(N)** 40(B)(1)(b) and 40(B)(1)(e)

4) The Company should include a more detailed discussion of DSM in its IRP, including the historically achieved and projected energy and peak impacts. **(N)** 40(B)(1)(e)(i) and 40(B)(1)(i)

5) The Company should include an evaluation of low, medium, and high fuel prices and environmental regulations (primarily CO_2 costs) in order to evaluate its DEC PPA costs. **(N)** 40(B)(1)(e)(iii)

6) The Company should develop a method of conducting resource evaluations as part of its IRP to compare its proposed plan to other reasonable options under different load, fuel, and risk sensitivities. This is necessary in order to compare net benefits of different resource plans. **(N)** 40(B)(1)(g) and 40(B)(1)(h)

7) The Company should develop a three (3) year action plan that identifies all actions the Company intends to take in order to implement its IRP. **(L)**

8) The Company should conduct analyses of the DEC PPA contract renewal. **(L)**

9) The Company should consider the benefits of conducting a competitive solicitation process as it considers alternatives to the DEC full requirements contract. **(L)**

10) The Company should conduct analyses to determine if it should continue to sell some of its owned resources to another party, or if customers would be better off if those resources were used to serve native load. **(L)**

Evolution of the IRP Process in South Carolina

Initiation of the IRP Process

The Commission first initiated a generic proceeding involving the jurisdictional Electric Utilities in June 1987 to address least-cost resource procedures based on a comprehensive planning approach.[11] The Commission required electric utilities to file their first IRPs in September 1989.[12]

The Commission approved a more formal IRP process in October 1991.[13] The Commission required utilities to file detailed IRPs every three (3) years and file a short term action plan in the intervening years. In addition to the Commission's IRP procedures, the South Carolina legislature passed a bill (Act 449) known as the South Carolina Energy Conservation and Efficiency Act of 1992, adding S.C. Code Ann. § 58-37-40.[14] The definition of an IRP adopted for use in South Carolina is found in S.C. Code Ann. § 58-37-10(2):

> "Integrated resource plan" means a plan which contains the demand and energy forecast for at least a fifteen-year period, contains the supplier's or producer's program for meeting the requirements shown in its forecast in an economic and reliable manner, including both demand-side and supply-side options, with a brief description and summary cost-benefit analysis, if available, of each option which was considered, including those not selected, sets forth the supplier's or producer's assumptions and conclusions with respect to the effect of the plan on the cost and reliability of energy service, and describes the external environmental and economic consequences of the plan to the extent practicable. For electrical utilities subject to the jurisdiction of the South Carolina Public Service Commission, this definition must be interpreted in a manner consistent with the integrated resource planning process adopted by the commission. For electric cooperatives subject to the regulations of the Rural Electrification Administration, this definition must be interpreted in a manner consistent with any integrated resource planning process prescribed by Rural Electrification Administration regulations.

[11] Docket No. 87-223-E, Order No. 87-569, June 18, 1987.
[12] Docket No. 87-223-E, Order No. 89-521, May 17, 1989.
[13] Docket No. 87-223-E, Order No. 91-885, October 21, 1991. Attachment A to the Order contained the detailed IRP requirements. Another Order granting clarification and modification was issued on November 6, 1991 (Order No. 91-1002).
[14] www.scstatehouse.gov/billsearch.php?billnumbers=1273&session=109&summary=B

In 1993, in Docket No. 93-430-E, the Commission focused specifically on IRP requirements for LPC and explained that LPC:[15]

> ...presented a unique situation for the development of an integrated resource plan. Among other things, Lockhart purchases 80% of its power from Duke Power Company. Essentially, Lockhart has unique problems. The Commission agreed that Lockhart presented unique situation, and therefore authorized the opening of this docket to establish a procedure, and subsequently examine an IRP strictly for Lockhart Power Company.

In that docket, the Commission established requirements for LPC that were similar to requirements established for the other utilities, such as having to file an IRP every three (3) years, however, the Commission eliminated the obligation for LPC of having to file a short term action plan in the intervening years. While this and certain other requirements were eliminated, the basic requirements for the development and composition of the IRP filing were the same as for other utilities.[16]

Until 1998, utilities followed the IRP requirements established by the prior Commission orders. On February 3, 1998, Duke Energy filed a petition to modify the IRP requirements, which led the Commission to re-evaluate its IRP procedures.[17] On July 2, 1998, the Commission issued Order No. 98-502 that appears to have applied to all electric utilities, which established a simplified set of IRP requirements based on what the Commission observed at the time to be "the changing nature and deemphasis of Integrated Resource Planning."[18] More recently, the state legislature passed Act 62 also known as the Energy Freedom Act of 2019, which addressed many issues associated with utility planning, including updating and re-emphasizing IRP requirements.[19]

Act 62 IRP Requirements

Act 62 was signed into law in May 2019. Act 62 updated Section 40 by changing some requirements and adding others that affected not only the electric utilities, but also the Commission, ORS and the State Energy Office ("SEO"). Act 62 applies to all electric utilities in South Carolina without any differentiation by size.

Section 40 now requires electric utilities to file IRPs that provide more detailed information to the Commission and other parties, and to post the IRPs on both the Commission and

[15] Docket No. 93-430-E, Order No. 93-950, October 14, 1993.
[16] Id. at 14.
[17] Docket No. 87-223-E, Order No. 98-502, July 2, 1998.
[18] Docket No. 87-223-E, Order No. 98-150, February 25, 1998.
[19] Signed into law on May 16, 2019.

utility's websites. Electric utilities are required to file IRPs at least every three (3) years, and to file annual updates with specific information requirements in the intervening years.[20] Section 40(B)(1) sets forth the required information and Section 40(B)(2) sets forth the additional optional information.

Section 40 now requires the Commission to establish a proceeding to review each electric utility's IRP. Interested parties are permitted to intervene and submit discovery. Section 40(C)(1) states the new requirements are intended to allow interested parties to obtain "evidence concerning the integrated resource plan, including the reasonableness and prudence of the plan and alternatives to the plan."

Sections 40(C)1 and (C)2 state the Commission shall issue a final order within 300 days approving the utility's IRP as is, if the Commission "determines that the proposed integrated resource plan represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed." However, if the Commission finds that the IRP does not meet that standard, then the Commission is required to either order the utility to make specific modifications to its IRP or reject the IRP entirely. If the Commission makes one of these determinations, Section 40(C)(3) provides procedures and a timeline that requires the utility to resubmit its IRP and ORS to review the revisions and report its findings to the Commission. Then, the Commission "at its discretion may determine whether to accept the revised integrated resource plan or to mandate further remedies that the Commission deems appropriate."

Section 40(C)2 directs the Commission to consider seven (7) factors as it evaluates whether the IRP is "the most reasonable and prudent means of meeting energy and capacity needs" and determine whether the IRP should be accepted, modified or rejected.

Section 40(D)1 discusses the requirements for IRP updates that are to be filed during the two (2) intervening years between when comprehensive filings are to be made. Section 40(D)2 discusses the procedure for reviewing annual updates, which is different than for the comprehensive filing that utilities must make every three (3) years. For the annual updates, ORS is required to review the utility's filing and submit a report to the Commission containing a recommendation concerning the reasonableness of the annual update. The Commission then must decide if it will "...accept the annual update or direct the electrical utility to make changes to the annual update that the commission determines to be in the public interest."[21]

[20] S.C. Code Ann. § 58-37-40(D)(1).
[21] S.C. Code Ann. § 58-37-40(D)(2).

Section 40(E) authorizes the Commission to promulgate regulations in order to carry out the provisions of Section 40.

Commission Consideration of LPC's IRP

The statute directs the Commission to approve the IRP if it finds that the IRP "represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs at of the time the plan is reviewed."[22] The Company asserted that the IRP met the requirements of Section 40(B),[23] and requested that the Commission find that LPC's IRP appropriately balances the seven (7) factors set forth in Section 40(C)(2) and approve LPC's IRP.[24]

ORS Approach to Performing this Review

ORS's objectives for its investigation were: 1) to determine if the Company met the statutory requirements of Section 40, and 2) to provide recommendations to the Commission for LPC to make immediate and future improvements to its IRP. To achieve these objectives, ORS reviewed the Company's 2020 IRP and earlier IRPs, the Company's testimony in this and other proceedings, discovery responses, and IRPs filed by other electric utilities, including Dominion Energy South Carolina, Inc. ("DESC"), Duke Energy Carolinas, LLC, Duke Energy Progress, LLC (together, "Duke Energy"), Georgia Power Company, Entergy Louisiana, LLC, PacifiCorp, Kentucky Power Company, Cleco Power, the City of Glendale, California, and others. ORS also reviewed the competitive solicitation process that the 1803 Electric Cooperative, Inc. of Louisiana ("1803") is currently performing.[25] ORS submitted three (3) sets of discovery in this proceeding consisting of 43 questions, including multi-part questions, and held a conference call with the Company on July 22, 2020.

[22] 40(C)(2).
[23] Direct Testimony of Bryan Stone, p. 4, l. 13.
[24] Id. p. 12, l 8.
[25] 1803 is a member-owned electric cooperative whose members currently have full-requirements wholesale power supply contracts that will expire in 2025. The members are evaluating alternatives based on a competitive solicitation process. https://www.acespower.com/1803ltrfp2019/

Compliance with Section 40 Statutory Requirements

This section of the Report first addresses the Company's compliance with the specific information requirements listed in the statute and then addresses the seven (7) factors that the Commission is directed to consider in making a determination of whether the Company's "proposed integrated resource plan represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs as of the time the plan is reviewed."[26] To ensure the Commission has the necessary information to make this determination, Section 40(B)(1) requires electric utilities to provide the following information in their IRPs:

- Sales and peak demand forecasts under various reasonable scenarios;
- Proposed generation technology types associated with reasonable fuel cost scenarios;
- Renewable energy purchases;
- Planned electric transmission investments;
- Several resource portfolios including the evaluation of low, medium and high DSM assumptions, cogeneration, and renewables. Sensitivities should consider retirements, fuel costs, environmental regulations, and other risks;
- Information about existing resources;
- Cost estimates for proposed resource portfolios;
- Cost and reliability impacts of reasonable options available to meet resource needs, and;
- Forecast of peak demand reduction programs and actions utility will take to achieve the peak demand reductions.

The statute also identifies information that is not required, but may be helpful to the Commission in its evaluation of the utility's IRP, including the utility's distribution resource plans or integrated system operation plans.[27]

As mentioned previously, ORS concludes that the Company did not meet all of the requirements of the IRP amendments in Act 62. Section 58-37-40 provides an exemption for electric cooperatives or municipally owned utilities that do not own or operate

[26] Section 40(C)(1) sets forth the standard of review and Section 40(C)(2) identifies the seven (7) factors.
[27] Section 40(B)(2).

generation resources. In these cases, those utilities, who do not own or operate generating resources, are permitted to refer to the plan of the wholesale power generator.[28] The exemption does not apply to LPC because it is not a cooperative or a municipally owned utility, and because it owns generation resources that produce energy for its customers and for sale to another party pursuant to PPA contracts.

LPC's IRP does not comply with the statutory requirements detailed in Section 40(B)(1). The Company provided one plan for the planning period ending 2034, and the Company seems to defer many aspects of the statutory requirements to the DEC full requirements, long-term contract. Specifically, LPC did not include an analysis of the cost of reasonable options that may be available to meet projected energy and capacity needs. The DEC full requirements PPA is an important example of a set of resources that should have been considered in the IRP. Other alternative and viable options may be available and the Company states, "....several years before the expiration of the current PPA term in 2028, Lockhart will investigate whether there are better options available for obtaining wholesale power on a full requirements basis."[29] It is inconsistent for the Company to assert that the DEC full requirements PPA would be extended indefinitely, without a transparent examination of alternative options. The expiration of the PPA falls within the IRP planning horizon and the Company should have included other alternative and viable options to support why the DEC full requirements PPA continues to be the best method to obtaining wholesale power.

LPC did provide some of the information required by Section 40, and it is clear that due to the nature of the Company's system some of the requirements of Section 40 are difficult to apply to LPC's system, such as the requirement to address new transmission investments.[30] Further, the Company requests that its "unique situation" of having a full requirements PPA with DEC should be taken into consideration in the review of the LPC IRP. The Company further explained this as follows:

> ...the fact that the Company has a full requirements contract has major implications related to its IRP. The traditional IRP process includes extensive analysis related to determining an optimal generation resource mix, and deciding when and where to site the generation resources, all in the context of ensuring sufficient generation resources are available under various failure scenarios with an adequate reserve margin to guarantee very reliable service.[31]

[28] Section 40(A)(2).
[29] Direct Testimony of Bryan Stone, p. 9, l. 1.
[30] Id. at p. 2, l. 7.
[31] ORS AIR 2-4. Also, for clarification, the Company's statement that siting is a typical element of an IRP may be true in other states, however, in South Carolina siting has never been a part of the Section 40 IRP Statute nor the amended Section 40, pursuant to Act 62.

ORS does not agree that LPC's current contract with DEC relieves the Company of its statutory obligation to evaluate resource alternatives. The decision of whether the PPA should be continued does affect this IRP because the decision LPC will make to extend or terminate the PPA will occur within the fifteen (15) year IRP planning horizon. It is not a requirement that final decisions be made at the time an IRP is performed; however, it is incumbent on a utility to begin to evaluate important issues early and present alternatives in a transparent way so that the Commission and customers are aware of the issues that will confront the utility in the future.

Statutory Requirements in Section 40(B)(1) and (2)

This section provides ORS's assessment of the Company's compliance with the Section 40(B)(1) and (2) statutory requirements.

B: An integrated resource plan shall include:

(1)(a): a long-term forecast of the utility's sales and peak demand under various reasonable scenarios.

The Company did not comply with this requirement because LPC provided a single load forecast, and the Company did not provide forecasts under various reasonable scenarios, such as under a high load growth or a low load growth projection. Moreover, the Company's base case forecast, the sole forecast provided in the IRP, did not have any support for its 1.0% growth rate assumption over the next 15 years. LPC explained its position as follows:

> In LPC's case, it is not necessary to conduct long-term forecasts under other scenarios. LPC has a long-term, all-requirements Power Purchase Agreement ("PPA") with Duke Energy Carolinas, LLC ("Duke Energy"). This long-term agreement ensures that LPC will be able to meet peak demand under any reasonable scenario.[32]

This statement ignores the fact that the Company has stated that it will examine alternatives to the DEC full requirements PPA, prior to its expiration in 2028.[33] In order to consider alternatives, the Company will require the ability to develop accurate sales and peak demand forecasts, as well as high and low sensitivity forecasts. The Company could either develop expertise in house to develop such forecasts, if it does not already have it,

[32] ORS AIR 1-1(a).
[33] Direct Testimony of Bryan Stone, p. 9, l. 1.

or it could seek external consulting expertise to assist it with this fundamental resource planning task.

(1)(b): the type of generation technology proposed for a generation facility contained in the plan and the proposed capacity of the generation facility, including fuel cost sensitivities under various reasonable scenarios.

The Company did not comply with this requirement and did not conduct or provide any analyses of generation technologies under any scenarios. The Company is not restricted by the full requirements contract with DEC from acquiring some resources under the terms of the PPA, and has in fact acquired renewable resources in the past. LPC stated in discovery that it continues to look for cost-effective opportunities to add renewable energy generation;[34] however, the Company did not discuss any resources that it may be considering to add during the IRP planning horizon. In addition, LPC has multiple renewable resources that it sells to another party under long-term sales contracts that expire within the fifteen (15) year IRP planning horizon. LPC did not evaluate whether to use these resources to serve its retail customers or to renew these long-term sales contracts. It stated: "[a]s those contracts expire, Lockhart Power will determine whether to seek renewal or replacement of the contracts or use the output for its own generation needs."[35] Arguably, Section 40 requires such issues to be examined in the IRP.

(1)(c): projected energy purchased or produced by the utility from a renewable energy resource.

LPC complied with this requirement by providing a list of its renewable energy resources in its IRP Revised Attachment 1, and it included the projected amount of energy to be produced by each resource in a year. That attachment indicates that LPC owns 35.7 MW of hydro, and 4.8 MW of Landfill Gas, based on nameplate capacity.

(1)(d): a summary of the electrical transmission investments planned by the utility.

LPC complied with this requirement by providing information in Attachment 5 of its IRP Report about its planned sub-transmission system investments, although LPC's system does not contain any transmission voltage components. LPC's system primarily consists of sub-transmission (34 kV) and distribution system components, and its sub-transmission system interconnects with DEC's 100 kV transmission system at four connection points.[36] [redacted] to complete the three listed projects.[37] Mr. Stone noted in his direct testimony that the

[34] ORS AIR 2-4(a).
[35] LPC 2020 IRP, Revised Attachment 1, Note 1.
[36] Direct Testimony of Bryan Stone, p. 2, l. 15.
[37] ORS AIR 2-20.

Company has no plans to make major investments in its sub-transmission system for purposes of integrating new generation resources.[38]

(1)(e): several resource portfolios developed with the purpose of fairly evaluating the range of demand-side, supply-side, storage, and other technologies and services available to meet the utility's service obligations. Such portfolios and evaluations must include an evaluation of low, medium, and high cases for the adoption of renewable energy and cogeneration, energy efficiency, and demand response measures, including consideration of the following:

i. customer energy efficiency and demand response programs;

ii. facility retirement assumptions; and

iii. sensitivity analyses related to fuel costs, environmental regulations, and other uncertainties or risks.

LPC did not comply with the statutory requirement to develop several resource portfolios for use in the evaluation of low, medium and high cases and the evaluation of risks of the resource portfolios. LPC states that it was not necessary to supply this information due to its PPA with DEC, which supplies 75% of its energy needs, and by the fact that DEC's generation resources will be examined in detail in DEC's separate IRP proceeding.[39] ORS disagrees with the Company's assertion that the statutory requirement to develop several resource portfolios is unnecessary for LPC. LPC itself is obligated to meet its load and energy requirements in a prudent, reasonable, and least cost manner. LPC's obligation is not shifted to DEC through the PPA. In addition, LPC has acquired its own resources in the recent past, including the Lockhart BioEnergy, LLC and Buzzards Roost Hydroelectric facilities.[40] Further, LPC continues to look for opportunities to acquire additional resources. Finally, LPC is faced with important decisions during the IRP planning horizon related to the extension or termination of the DEC full requirements PPA contract, and whether LPC should continue to sell the energy from some of its owned renewable resources under PPA contracts to another party.

(1)(f): data regarding the utility's current generation portfolio, including the age, licensing status, and remaining estimated life of operation for each facility in the portfolio.

LPC partially complied with this requirement by supplying LPC 2020 IRP Revised Attachment 1 showing the Installation and the License/Permit Expiration dates for some,

[38] Id. at p. 6, l. 3.
[39] ORS AIR 1-1(d).
[40] LPC 2020 IRP, Revised Attachment 1.

but not all of its facilities. The Company should provide the remaining estimated life assumption for each resource.

(1)(g): plans for meeting current and future capacity needs with the cost estimates for all proposed resource portfolios in the plan.

The Company did not comply with this requirement. In addition to providing only a single resource plan covering its 15-year IRP planning horizon, the Company failed to provide a projected cost estimate for the resource plan.

[redacted][41] The Company indicated it will evaluate solar resources in the near future. In addition, the Company must evaluate whether to extend the DEC full requirements PPA contract, and whether to continue to sell some of the LPC-owned renewable resources to another party under PPA contracts as the contracts expire. All of these issues must be considered within the 15-year planning horizon of the IRP. Additionally, it is typical electric utility industry practice and an essential component of an IRP to develop cost estimates for alternative resource portfolios in the IRP and present the options and alternatives in a transparent manner.

(1)(h): an analysis of the cost and reliability impacts of all reasonable options available to meet projected energy and capacity needs.

As discussed above associated with requirement (1)(g), the Company did not comply with the requirement to include cost impacts in its IRP. However, LPC has complied with the requirement to consider reliability impacts. LPC retains the obligation to ensure the reliability of its system, and it has addressed this through its contract with DEC for full requirements service, and by having acquired 12.8 MW of diesel generators that can be relied on in case of grid emergencies.

(1)(i): a forecast of the utility's peak demand, details regarding the amount of peak demand reduction the utility expects to achieve, and the actions the utility proposes to take in order to achieve that peak demand reduction.

LPC partially complied with this requirement by providing a forecast of its peak demand in Attachment 2 to its IRP and by discussing the actions (IRP Section 4, pp. 2-3) it is taking to "encourage improved load factors and promote efficient energy choices."[42] These actions are strictly rate design measures. Furthermore, the Company also stated it tries to create energy savings in the new construction, renovation and routine

[41] ORS AIR 2-16.
[42] Direct Testimony of Bryan Stone, p. 9, l. 13.

replacement of equipment activities it performs, although it did not provide any details regarding these activities.[43]

LPC did not comply with the requirement to provide the amount of peak demand reduction that it expects to achieve. Although, with respect to the rate design measures the Company has implemented, Mr. Stone stated that "LPC does not expect a significant reduction in demand..." will be achieved.[44]

The Company's position on acquiring any additional energy efficiency and demand response programs is that "the Company continues to look for opportunities to cost-effectively add renewable energy generation or demand-side management or energy efficiency programs as allowed under the PPA."[45] The Company should provide additional information regarding the efforts it is making or has made to investigate additional energy efficiency and demand-side management opportunities, and it should discuss any limitations that may exist under the terms of the PPA contract.

(B)(2): An integrated resource plan may include distribution resource plans or integrated system operations plans.

The Company did not include any distribution resource plans or integrated system operations plans. This item is not a mandatory requirement under the statute.

Statutory Requirements in Section 40(C)(2)

The statute directs the Commission to consider seven (7) factors in making its determination as to whether the IRP "represents the most reasonable and prudent means of meeting the electrical utility's energy and capacity needs at of the time the plan is reviewed." The following are the factors that must be considered:

C(2): The commission, in its discretion, shall consider whether the plan appropriately balances the following factors:

(a) resource adequacy and capacity to serve anticipated peak electrical load, and applicable planning reserve margins.

(b) consumer affordability and least cost.

[43] LPC 2020 IRP, Section 17, Capturing Lost Opportunity Resources, p. 7.
[44] Direct Testimony of Bryan Stone, p. 9, l. 9.
[45] ORS AIR 2-4(a).

(c) compliance with applicable state and federal environmental regulations.

(d) power supply reliability.

(e) commodity price risks.

(f) diversity of generation supply.

(g) other foreseeable conditions that the commission determines to be for the public interest.

LPC stated in response to discovery that the IRP preferred plan represents the best balance of these seven (7) factors.[46] ORS disagrees as it is clear the Company has not provided sufficient evidence to support its conclusion based on all seven (7) of the statutory factors. The Company did provide reasonable supporting evidence for some of the factors based on its preferred plan, particularly resource adequacy (a), power supply reliability (d), and diversity of generation supply (f).

With regard to resource adequacy (a), although the Company did not evaluate alternative plans, it did provide evidence that its preferred plan will provide an adequate supply of resources to meet customer demand. The Company primarily meets its resource adequacy obligation based on its full requirements contract with DEC. Likewise, the Company's preferred resource plan will also meet all reliability obligations (d) for the same reason, in other words, based on its full requirements contract with DEC. With regard to diversity of generation supply (d), LPC meets that requirement in two ways. First, 75% of LPC's energy requirements are satisfied by DEC's diversified system, which contains nuclear, hydro, fossil, and renewable resources. Second, LPC supplies the remainder of its requirements based on LPC-owned resources, which are mainly renewable resources, but also includes diesel fueled peaking resources. All in all, the single plan LPC presented in the IRP does contain a diverse set of resources. However, since no other alternatives were presented, there is no way to know if the Company's plan is least cost amongst alternatives.

The Company simply includes statements in the IRP report that it will address the other statutory factors, however, it does not provide a specific timeframe or method for evaluation. With regard to item (b), consumer affordability and least cost, the Company stated, "LPC will employ unbiased analysis techniques for potential options included in its IRP. LPC will evaluate each option by including all appropriate costs and benefits and will provide a detailed explanation with supporting evidence for our choice."[47] Other than a

[46] ORS AIR 2-26.
[47] LPC 2020 IRP, p. 5.

simple statement, LPC provided no information about the techniques it would employ and no details regarding any plan other than the LPC preferred plan. The Company provided no cost information at all to support the general statement or a timeframe for providing a detailed explanation and evidence.

With regard to compliance with applicable state and federal environmental regulations (c), the Company stated it would either consider environmental costs on a monetized basis where reasonable, or on a qualitative basis when it was not possible to monetize the environmental costs. LPC did not provide any information regarding potential environmental costs, including costs that it might incur through the DEC full requirements PPA associated with DEC's environmental impacts, or associated with any other potential resource plan alternatives. Similarly LPC did not provide any information regarding commodity price risks (e) associated with its DEC PPA costs. The Company should be required to provide additional information in its IRP about the impacts of these environmental regulations and commodity price risks, especially the impact of these items on LPC's DEC PPA costs. ORS's Recommendation 5, which is discussed above in the Executive Summary section of this report, addresses this issue.

Item (g), other foreseeable conditions that the Commission determines to be for the public interest, is a factor that is particularly important in the case of LPC. LPC relies on the full-requirements DEC PPA as the reason for not conducting or providing the analyses and information typically included in an IRP and required by Section 40. More than 75% of LPC's energy requirements are supplied by DEC, and for that reason LPC makes numerous assertions in the IRP and in response to discovery that it would like the Commission to consider, such as when the Commission considers factor (g), which is other foreseeable conditions that the commission determines to be for the public interest. The Company's assertions include:

- Duke Energy's rates to LPC are presumptively just and reasonable, having been permitted by the FERC. We plan to continue to use Duke Energy to provide a firm load-following supply for the foreseeable future.[48]

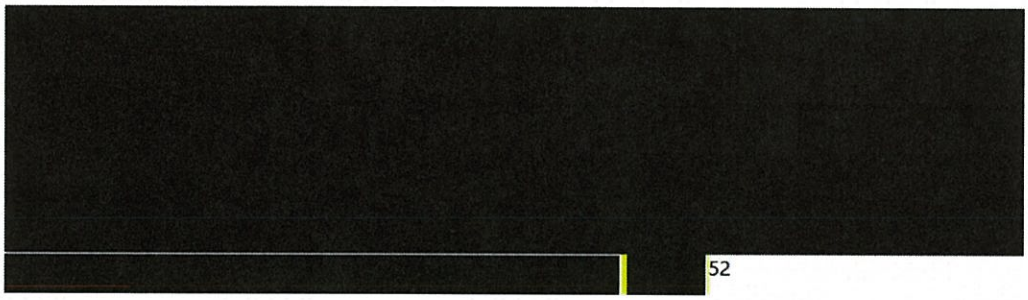
- In LPC's case, it is not necessary to conduct long-term forecasts under other scenarios. LPC has a long-term, all-requirements Power Purchase Agreement ("PPA") with Duke Energy Carolinas, LLC ("Duke Energy"). This long-term agreement ensures that LPC will be able to meet peak demand under any reasonable scenario.[49]

[48] LPC 2020 IRP, p. 4.
[49] ORS AIR 1-1(a).

- Duke Energy's generation resources will be examined in detail in Duke Energy's separate IRP proceeding.[50]

- To the extent LPC might experience sensitivity related to fuel costs, environmental regulations, and other uncertainties or risks, it would be reflected in the rates charged to LPC by Duke Energy under the PPA. The analysis of those uncertainties or risks would be the subject of Duke's Energy's separate IRP proceeding.[51]

These are factors for the Commission to consider in the evaluation of the LPC IRP. Nevertheless, Section 40, as written, does apply to LPC because LPC owns and operates generation resources, and sells the capacity and energy from certain of its generation resources pursuant to PPA sales contracts. These obligations are not subjugated to DEC through the PPA contract. Also, in response to ORS discovery, the Company [redacted], as it stated:


[52]

ORS was unable to find any indication that these risks were evaluated and discussed by the Company in any prior IRPs, as ORS reviewed the Company's IRPs going back as far as 2005. The only mention of any consideration of the acquisition of prior renewable resources that could be found was discussed in rate case testimony at the time that the Company sought cost recovery of those resources. The Company stated the following in a discovery response:

> In the past, the Company has contacted the ORS to discuss plans in advance of adding a supply-side or demand-side option, to help ensure any such option is as well considered as possible before being utilized to serve retail customers. We would take the same approach in the future.[53]

ORS appreciates the steps the Company took in the past to discuss its plans with ORS in advance of committing to a new resource option, and ORS believes the Company

[50] ORS AIR 1-1(d).
[51] ORS AIR 1-1(d)(iii).
[52] ORS AIR 2-23.
[53] ORS AIR 2-12(d).

should continue this practice in the future prior to the acquisition of any supply-side and demand-side resources. It should also be noted that the Company may not have always notified ORS in advance, as ORS is not aware of any attempt the Company made to discuss the Buzzard Roost Hydro facility prior to the Company's acquisition of that resource. Also, regardless of taking these steps, the Company must also provide evaluations of resource plans and risks associated with those plans in the context of the Company's IRP for the Commission's consideration, subject to the provisions of Act 62.

Furthermore, regarding LPC's position that it is not necessary for the Company to conduct long-term forecasts given the nature of its PPA with DEC,[54] even if DEC's IRP were found to appropriately balance the seven (7) factors in its IRP proceeding, that would only constitute evidence that DEC's IRP properly balances the factors for DEC's customers, who could take advantage of all of the programs that DEC has to offer. It would not constitute evidence that LPC's IRP properly balances the seven (7) factors for LPC's customers. Ultimately, the only way to determine if LPC is proceeding with the most reasonable plan for its ratepayers would be for LPC to fully comply with the Section 40 IRP amendments in Act 62.

The remainder of this report addresses specific aspects of LPC's IRP Report.

[54] ORS AIR 1-1(a).

Evaluation of LPC's IRP

Load and Energy Forecasting

LPC's load and energy forecasts are developed using a trend analysis that assumes a 1.0% annual growth rate for fifteen (15) years. System energy requirements and rate class sales, summer peak load and winter peak load are all trended using this 1.0% assumption. The Company did not explain how it arrived at its 1.0% growth rate assumption, as summarized in the following discovery response:[55]

[redacted]

Figure 1 below shows a chart of the Company's MWh sales forecast, together with five (5) years of historic data for the years 2015 through 2019.

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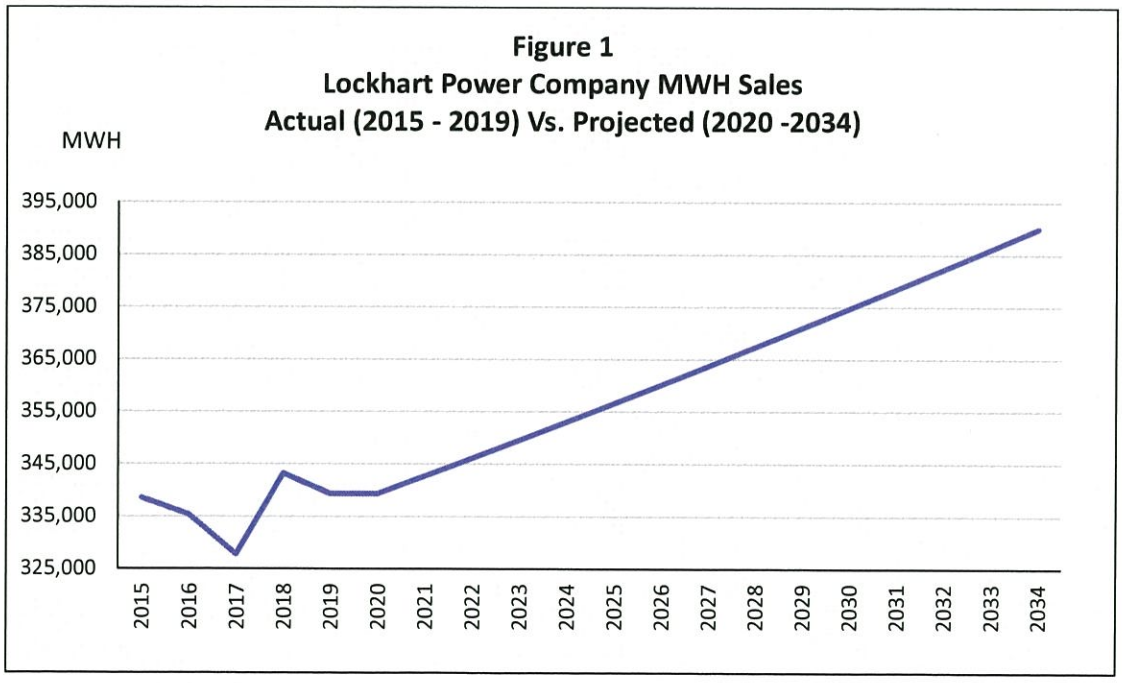

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[55] ORS AIR 3-14(a).

Based on this chart, it does not appear that there has been any [redacted] in MWh requirements during the past five (5) years, [redacted] the 1.0% assumed in the Company's forecast. To examine this in more detail, it is appropriate to look at the impact of weather on sales. To do this, ORS developed cooling and heating degree day metrics using daily temperature data from the Greenville-Spartenburg International Airport.[56] Figure 2 shows a plot of this data, coupled with the Company's MWh sales for the years 2015 to 2019. The CDD and HDD data is presented on a deviation from normal basis.[57]

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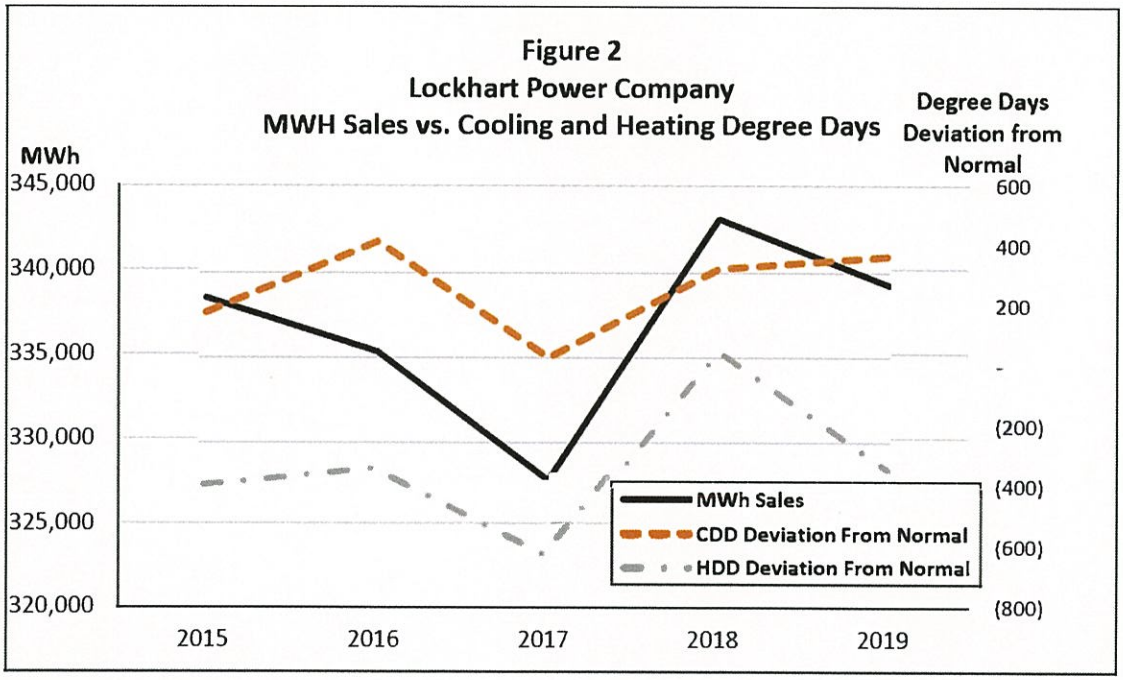

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While this chart is not a statistical analysis of the historic relationship between MWh sales and weather, the chart pattern clearly indicates that weather has a [redacted] sales. In the case of LPC, it is reasonable to assume that weather (CDD, HDD) has a [redacted], which is a wholesale customer of LPC. As such, Figure 2 provides a better

[56] Cooling and Heating degree days are measured as the cumulative difference between average daily temperature for the day and a 65 degree base, summed over 365 days for the year. Cooling degree days ("CDD") are computed as the difference between the daily average temperature and 65, with any negative values for a day set to zero. Heating degree days ("HDD") are computed as 65 minus the daily average temperature, summed over 365. Any negative day HDDs are set to zero.

[57] Normal values are based on a 30 year average of the temperatures at the Greenville-Spartenburg International Airport.

understanding of the changes in the Company's energy sales over the past 5 years versus simply observing the trend in the MWh data by itself. In 2019, sales to residential customers (% of total sales) and commercial customers (% of total sales), which are weather sensitive, amounted to % of total sales. Industrial sales, which are not generally considered weather sensitive, amounted to % of total sales. When sales to the City of Union (% of total sales) are included with the residential and commercial sales, % (%) of the system sales are potentially weather sensitive.

As shown in Table 1, during the past five (5) years, residential sales have % per year on a compound average growth rate basis, while commercial sales, which comprise only % of the system, by about % per year. Sales to industrial customers have % per year, while the City of Union sales have Overall, LPC's energy sales have % per year during the past five (5) years.

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Table 1
Lockhart Power Company Actual MWh Sales (2015 to 2019)

	Residential	% Chg.	Commercial	% Chg.	Industrial	% Chg.	Lighting	% Chg.	Total Retail	% Chg.	Wholesale (City of Union)	% Chg.	Total	% Chg.
2015	67,557		17,195		113,114		3,005		200,871		137,672		338,544	
2016	66,273	-1.9%	17,585	2.3%	108,648	-3.9%	3,053	1.6%	195,560	-2.6%	139,802	1.5%	335,362	-0.9%
2017	61,919	-6.6%	14,266	-18.9%	114,220	5.1%	3,087	1.1%	193,491	-1.1%	134,289	-3.9%	327,780	-2.3%
2018	68,256	10.2%	15,024	5.3%	115,938	1.5%	3,111	0.8%	202,330	4.6%	140,881	4.9%	343,210	4.7%
2019	64,999	-4.8%	17,749	18.1%	115,158	-0.7%	3,126	0.5%	201,032	-0.6%	138,245	-1.9%	339,277	-1.1%
Growth 2015-2019		-0.96%		0.80%		0.45%		0.99%		0.02%		0.10%		0.05%

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This % historic actual growth in sales the Company's forecast that projects that each rate class and the total system energy requirements will grow at 1% for each of the next 15 years. The 1.0% forecasted growth rate is the 5-year actual growth rate.

LPC also projects that both its summer and winter peak loads will grow at the same 1.0% assumed for its energy requirements and MWh sales for each rate class. Figure 3 shows a chart of the Company's summer and winter system peak forecasts for the years 2020 through 2034, and the historic actual peaks for the years 2015 through 2019. As can be

seen in the chart, [redacted] Recall from Figure 2 that the year 2018 had more extreme cooling and heating degree days than the other four (4) historic years.

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Figure 3
Lockhart Power Company Summer/Winter Peak Demand
Actual (2015 - 2019) Projected (2020 - 2034)

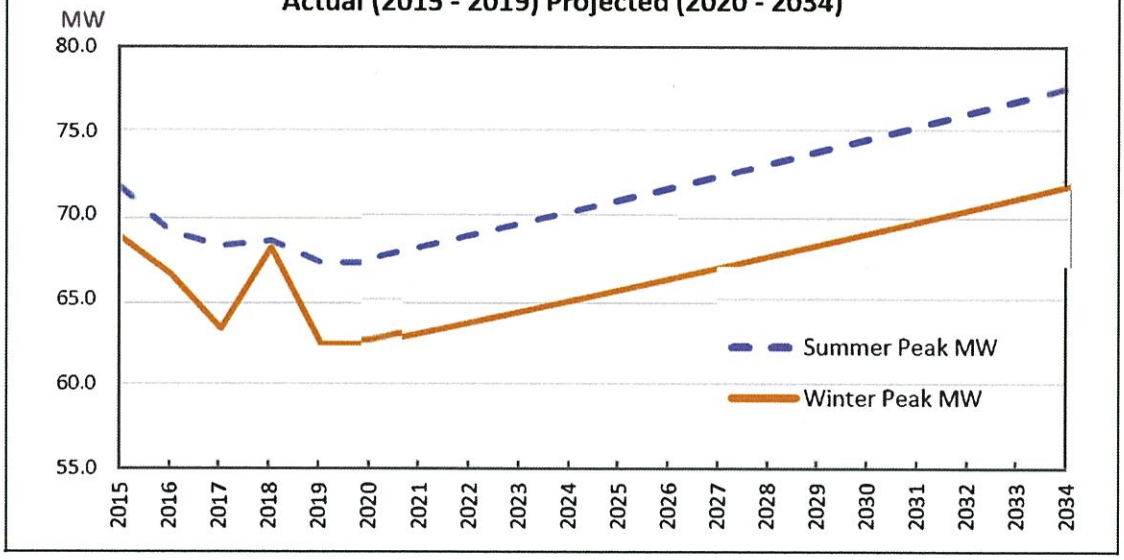

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Table 2 presents the annual peak load data supporting Figure 3.

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Table 2
Lockhart Power Company 2020 IRP Peak Demand
Actual (2015 - 2019) Projected (2020 - 2034)

	Summer Peak MW	% Change	Winter Peak MW	% Change	Summer Peak less Winter Peak (MW)
2015 *	71.7		68.9		2.8
2016 *	69.2	-3.5%	66.7	-3.2%	2.5
2017 *	68.4	-1.2%	63.5	-4.8%	4.9
2018 *	68.7	0.4%	68.3	7.6%	0.4
2019 *	67.4	-1.9%	62.6	-8.3%	4.8
2020	67.4	0.0%	62.6	0.0%	4.8
2021	68.1	1.0%	63.2	1.0%	4.8
2022	68.8	1.0%	63.9	1.0%	4.9
2023	69.4	1.0%	64.5	1.0%	4.9
2024	70.1	1.0%	65.1	1.0%	5.0
2025	70.8	1.0%	65.8	1.0%	5.0
2026	71.5	1.0%	66.5	1.0%	5.1
2027	72.3	1.0%	67.1	1.0%	5.1
2028	73.0	1.0%	67.8	1.0%	5.2
2029	73.7	1.0%	68.5	1.0%	5.2
2030	74.5	1.0%	69.1	1.0%	5.3
2031	75.2	1.0%	69.8	1.0%	5.4
2032	75.9	1.0%	70.5	1.0%	5.4
2033	76.7	1.0%	71.2	1.0%	5.5
2034	77.5	1.0%	72.0	1.0%	5.5

* Actual

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Based on this analysis, there are two conclusions. First, the Company's annual energy and peak demand forecasts both assume 1.0% annual growth rates, which is not supported by actual energy and peak demand growth rates during the past five (5) years. Second, the Company's energy and peak load forecasts are not based on any type of statistical analysis of historic data and customer behavior and does not account for weather effects. Furthermore, LPC projects a 15-year growth rate in energy sales and requirements that is [redacted] the forecast developed by DESC in its 2020 IRP. LPC's 1.0% peak forecast growth rate is about [redacted] DESC's peak forecast growth rate over the next fifteen (15) years.

It is important to recognize that the consequences of any forecast errors that may arise will affect economic analyses that the Company will have to perform such as the extension of the DEC PPA contract in 2028. That study will have to begin several years prior to 2028. Second, the economic analysis of whether to continue selling the energy from LPC-owned renewable resources to [redacted] under PPA contracts would also require a reasonable load and energy forecast. [redacted]

For these reasons, ORS concludes that LPC's forecast does not meet the requirements of Section 40(B)(1). Furthermore, Section 40(B)(1) requires utilities to evaluate alternative forecast scenarios, and LPC performed no such analyses.

Load and Energy Forecasting Recommendations

1) The Company should develop long-term forecasts of sales and peak demand under various reasonable scenarios, which typically include low, medium and high forecasts. **(N)** 40(B)(1)(a)

2) The Company should improve its forecasting methodology. This includes developing documentation describing the energy and peak load forecast methodology and performing a statistically based analysis that uses historical LPC sales and load data, together with weather data to develop long term projections. **(L)**

Demand-Side, Supply-Side, Storage, and Other Technologies

The Company did not conduct evaluations of low, medium, and high levels of these resources in its IRP. The only technology the Company mentioned it is looking at is solar resources. However, no alternative resource plans were presented nor were any costs identified, as required by Section 40(B)(1)(b) and 40(B)(1)(e).

DSM measures are discussed in Section 4 of LPC's 2020 IRP, which includes a list of rate design actions LPC has incorporated in order to encourage customers to reduce energy usage and peak demand. The following discusses the rate design features the Company has implemented, differentiated by Residential and Commercial/Industrial classes.

Residential Rate Designs

- Incorporated a demand penalty by use of a demand rachet.

- Incorporated a conservation requirement in its Residential - All Electric rate tariff, as customers are required to use electric furnaces or electric heat pumps, which the Company states are more efficient than gas furnaces.[58]
- Set the Residential and Residential - All Electric rate tariffs to have identical charges during the summer months.
- Includes an inverted rate in the Residential and Residential - All Electric rate tariffs.
- Offers a net metering tariff for rooftop solar customers.

Commercial and Industrial Rate Designs

- Includes different demand charges for the first 200 hours of billing demand, and for more than 200 hours of billing demand.
- Set the General Service Commercial and General Service – All Electric rates to have identical charges during the summer months.
- Offers an interruptible service demand-side management program developed by DEC.

Descriptions of each of these rate designs may be found at page 4 and 5 of the Company's IRP Report. Essentially, the Company only provided this information, and did not include a forecast of the impact on the peak demand or energy use that these measures would cause. Analysis of historical energy and demand impacts would help inform parties of whether these rate measures were successful. Projected energy and demand impacts would also help inform future resource plans and resource plan comparisons.

The Company expressed its position regarding why it did not study any energy efficiency programs in this IRP in response to a discovery request as follows:

[58] ORS AIR 2-9(a).
[59] ORS AIR 2-11(d).

Demand-Side, Supply-Side, Storage and Other Technologies Recommendations

3) The Company should develop several resource portfolios (low, medium, and high) to evaluate the range of demand-side, supply-side, storage and other technologies available to meet its load requirements. **(N)** 40(B)(1)(b) and 40(B)(1)(e)

4) The Company should include a more detailed discussion of DSM in its IRP, including the historically achieved and projected energy and peak impacts. **(N)** 40(B)(1)(e)(i) and 40(B)(1)(i)

Sensitivity to Fuel Price Forecasts and Environmental Regulations

The Company did not develop fuel price forecasts or evaluate fuel price sensitivity cases to determine the risk associated with a range of reasonable fuel price outcomes. Also, LPC did not evaluate any potential environmental regulations, such as potential CO_2 legislation as part of its IRP. These evaluations could have been used to consider risks associated with the DEC full requirements PPA costs. However, the Company asserted that there was no need to develop and provide that information because most of the energy it produces using its own resources comes from renewable resources that have no fuel costs and negligible environmental risks. Furthermore, the Company asserted that the analysis of the risks of fuel price forecasts "...would be the subject of Duke's Energy's separate IRP proceeding."[60]

ORS disagrees with the Company. LPC is required to evaluate fuel price forecasts and environmental regulations in its IRP based on requirements in Section 40(B)(1)(e)(iii) of the statute. The Company could have developed reasonable estimates in a number of different ways, such as by using publicly available industry data from the Energy Information Administration ("EIA"). Ultimately, the Company requires forecasts of its DEC full requirements PPA costs. The Company could have used historic data to develop estimates of DEC full requirements PPA costs under different future scenarios of fuel and CO_2 costs. LPC may also have an approach for forecasting these costs that it uses for other purposes, such as for financial forecasting and for making decisions about resources to acquire. Recent examples of acquisitions include the Company's decision to acquire the Lockhart BioEnergy, LLC facility, which was completed in 2015, and the decision to acquire the Buzzards Roost Hydroelectric facility, which the Company just assumed control of on June 1, 2020. Those resources are not currently in the Company's rate base, however, the Company could consider including those in its rate base in a future rate case.

[60] ORS AIR 1-1(d).

An economic forecast will be necessary to study potential options to replace the DEC full requirements contract in 2028, and to evaluate whether to continue selling energy from some of its renewable resources to [redacted] under PPA contracts when those contracts expire. The Company owns four (4) renewable resources (Lower Pacolet Hydro, Wellford Landfill Gas, Upper Pacolet Hydro, and Lockhart Minimum Flow Hydro) that are all in rate base, but the entire output from those units is currently sold to [redacted] based on [redacted] year PPA contracts. LPC treats the revenues from those contracts as energy credits in its power cost adjustment clause schedule. The [redacted], and the rest will expire by the end of [redacted]. Decisions of whether to extend the contracts or whether to assign the capacity and energy directly to ratepayers, without the revenue credits must be made [redacted]. For the [redacted] contract that will expire at the end of [redacted], the Company should already know whether it plans to renew the sales contract. ORS understands that the decisions for [redacted]. These decisions should be made transparently and should be evaluated in the context of the IRP. The Company even noted that it would have to perform an evaluation of the resources when it filed testimony in its 2013 rate case, in which Company witness Bryan Stone stated:

> At the end of the ten-year agreement, the then-current energy market conditions will be used as the basis to decide whether to use the power to self-serve Lockhart's customers, or to continue selling the power off-system.[61]

This decision of whether to use the power to serve retail customers or whether to continue selling the energy from the resources under PPA contracts should be made based on a projection of DEC purchase power costs.

Sensitivity to Fuel Forecasts and Environmental Regulations Recommendations

5) The Company should include an evaluation of low, medium, and high fuel prices and environmental regulations (primarily CO_2 costs) in order to evaluate its DEC PPA costs. **(N)** 40(B)(1)(e)(iii)

Existing System Resources and Resource Planning

LPC's owned generating resources include hydro, biomass, and diesel units that are listed in the Revised Attachment 1 of the IRP. As mentioned above, two of the resources, the Lockhart BioEnergy, LLC facility (3.2 MW), and the Buzzards Roost Hydroelectric

[61] Direct Testimony of Bryan Stone, LPC 2013 Rate Case, Docket No. 2013-378-E, March 25, 2014, p. 7, l. 1. A similar statement is included in Note 1 in revised Attachment 1 to the IRP Report.

facility (15 MW) are not included in rate base, though the Company may consider seeking the Commission's approval to include them in the next rate case. Of the remaining owned generating facilities that are included in rate base, the Company owns four (4) hydro facilities (Lockhart Hydro, Lower Pacolet Hydro, Upper Pacolet Hydro, and Lockhart Minimum Flow Hydro) consisting of a total of 20.7 MW of nameplate capacity, two (2) diesel facilities (Pacolet Diesel and Union Diesel) consisting of 14 MW of nameplate capacity, and one biomass facility (Wellford Landfill Gas) that has a nameplate capacity of 1.6 MW. The licenses/permits for each of the hydro units extends well beyond the 15-year planning horizon in this IRP. The Lockhart Hydro facility is also the oldest of the Company's facilities, which began operation in 1920.

ORS reviewed several of the sales contracts between the Company and [redacted] regarding the sale of energy from some of the LPC-owned renewable resources, as well as the terms under the DEC full requirements PPA, which permits the Company to acquire new resources. The provisions that allow LPC to be able to acquire new resources are found in [redacted] of the Duke full requirements PPA. The contract specifies limits to the amount of new resources LPC may acquire under these provisions.

The Company stated in Section 11 of the IRP Report that it continues to evaluate potential renewable energy initiatives and other potential supply-side opportunities; however, the Company failed to provide any information about opportunities that it has evaluated, rejected, or that still exist. While the Company did mention that [redacted][62]

With regard to resource planning, the Company has indicated that it will continue to look for opportunities to add cost-effective supply or demand-side resources. The Company's position is that when a major resource decision is imminent and needs to be made, such as the expiration of the current DEC full requirements PPA in 2028, it would then "perform an analysis that would be applicable to the subsequent iteration of the IRP."[63]

While the Company states it would perform analyses that would be applicable to the subsequent iteration of its IRP, there is no evidence the Company has ever discussed resource acquisitions in any prior IRPs and there have been several acquisitions since 2013. According to Mr. Stone's direct testimony:

> Lockhart's approach toward adding cost effective generation as specific

[62] ORS AIR 2-13(b).
[63] ORS AIR 2-4(a).

> opportunities are identified has allowed it to grow from one facility to seven in its retail operations during the six years ending in early 2013, with virtually all generation from renewable resources.[64]

Furthermore, the Company's statement about including information supporting its resource acquisitions in its IRP was not just made in the discovery response in this proceeding, the Company has made consistent statements in every IRP going back to its 2005 IRP.

> LPC will employ unbiased analysis techniques for potential options included in its IRP. LPC will evaluate each option by including all appropriate costs and benefits and will provide a detailed explanation with supporting evidence for our choice.[65]

In LPC's 2011 IRP, the Company mentioned at that point it was utilizing five (5) sources of supply including the Lockhart and Pacolet hydroelectric facilities, the Pacolet and Union diesel facilities, and purchases from DEC. There was no consideration of other resource alternatives mentioned in that IRP. In its 2012 IRP filing, LPC filed a letter stating there was no change since its 2011 IRP.[66] In its 2013 IRP filing, the Company once again filed a letter stating its IRP had not changed, however, it also noted that there was one exception. The Company's complete statement was:

> Pursuant to Docket No. 2013-11-E, Order No. 94-348 & 98-502, please be advised that the Lockhart Power Company's INTEGRATED RESOURCE PLAN has not changed from the filing date of June, 2011 except for the addition of two generation sources (800 kW Lockhart Min. Flow Unit and the 1100 kW Upper Pacolet Hydro Plant.)[67]

At some point, the Company necessarily evaluated the two new hydro generation options, yet it does not appear that it ever provided "a detailed explanation with supporting evidence"[68] of the unbiased analysis techniques that it used in any IRP that it filed.

While the Company may not be evaluating any more hydro projects, it has acknowledged that [redacted] and the Company states that it [redacted]

[64] Direct Testimony of Bryan Stone, p. 11, l. 7.
[65] LPC 2020 IRP, Section 5, p. 5.
[66] Docket No. 2012-11-E, letter filed by Janes Seay Jr., Manager – Engineering & Regulatory Affairs, Lockhart Power Company, June 25, 2012.
[67] Docket No. 2013-11-E, letter filed by Janes Seay Jr., Manager – Engineering & Regulatory Affairs, Lockhart Power Company, June 17, 2013.
[68] LPC 2020 IRP, Section 5, p. 5.

[redacted] ORS believes the Company should have considered solar resource options in this IRP in compliance with this and other sections of Section 40, such as (1)(b), and (1)(h).

Existing System Resources and Resource Planning Recommendation

6) The Company should develop a method of conducting resource evaluations as part of its IRP to compare its proposed plan to other reasonable options under different load, fuel, and risk sensitivities. This is necessary in order to compare net benefits of different resource plans. **(N)** 40(B)(1)(g) and 40(B)(1)(h)

Short Term Action Plan

Another matter relates to the need to include a short term action plan in the IRP Report. Although the statutory requirements of Section 40 do not mandate that a utility include a Short Term Action plan, it is typical that most utility IRP Reports do include such a plan. Other utilities include action plans in their IRPs. For example, DEC recently filed its 2020 IRP, and indicated that its Short Term Action Plan includes accomplishments that occurred over the past year and actions that it plans to take over the next five years. Action Plans typically include important steps necessary to carry out supply-side, demand-side, and other plans as identified in the IRP, including any studies to be performed and filings to be made. The Action Plan also typically identifies a timeline when the actions will be carried out. Since the IRP statute is performed over on a three (3) year schedule, the Short Term Action Plan should cover at least three (3) years.

Short Term Action Plan Recommendation

7) The Company should develop a three (3) year action plan that identifies all actions the Company intends to take in order to implement its IRP. **(L)**

Analyses to Perform as Part of the IRP

As discussed throughout this report, there are two analyses that should be performed as part of the Company's IRP analyses, including 1) the DEC full requirements PPA contract renewal evaluation, and 2) the continued sale of energy from LPC-owned renewable resources. With regard to the DEC full requirements PPA contract, the Company will have to begin evaluating whether to continue the DEC PPA several years prior to 2028. In response to discovery, the Company stated, [redacted]

[69] ORS AIR 2-13.

[redacted][70] The Company should also consider the benefits of conducting a competitive solicitation process as it considers alternatives to the DEC full requirements contract.

Analyses to Perform as Part of the IRP Recommendations

8) The Company should conduct analyses of the DEC PPA contract renewal. **(L)**

9) The Company should consider the benefits of conducting a competitive solicitation process as it considers alternatives to the DEC full requirements contract. **(L)**

10) The Company should conduct analyses to determine if it should continue to sell some of its owned resources to another party, or if customers would be better off if those resources were used to serve native load. **(L)**

[70] ORS AIR 3-6(a).